



MSMR

Medical Surveillance Monthly Report

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Data in the MSMR is provisional, based on reports and other sources of data available to the Medical Surveillance Activity. Notifiable conditions are reported by date of onset (or date of notification when date of onset is absent). Only cases submitted as confirmed are included.

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE NOV 1995		2. REPORT TYPE		3. DATES COVERED 00-00-1995 to 00-00-1995	
4. TITLE AND SUBTITLE Medical Surveillance Monthly Report (MSMR). Volume 1, Number 8, November 1995				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Center for Health Promotion and Preventive Medicine, Armed Forces Health Surveillance Center (AFHSC), 2900 Linden Lane, Suite 200, Silver Spring, MD, 20910				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 12	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Report from the Field**Dengue Fever, Ft Lewis, WA**

The patient is a 48 year old army reservist who was in Port Au Prince, Haiti from May 28 through October 12, 1995. His duties as a flight engineer involved supervising loading and unloading of Chinooks for troop transport, vehicle transport, and ballot distribution (for the elections) throughout the island; consequently, he had contact with many foreign troops, including Pakistani, Bangladeshi, Argentinian, and Canadian.

Despite using military-issued insect repellent regularly as well as other repellents, he was bitten frequently by mosquitoes. He applied repellent in the morning and in the evening after a shower and recalls being bitten mostly on the arms, legs, and face in the early morning around sunrise and late afternoon around dusk when the winds died down. He treated his bednet every one to two weeks with permethrin and treated his uniform once on arrival and again two months later, but spent most of the hot days wearing PT shorts.

In early September, he developed malaise which lasted for three days. At the same time he developed axillary adenopathy and a fine erythematous rash on his abdomen and arms, which he said "looked like a heat rash." He presumed he had the flu as his symptoms progressively worsened over the next three days. The soldier became bedridden while on a previously-scheduled R&R, developing temperatures up to 105 degrees Fahrenheit which fluctuated with two hour intervals between temperature spikes, possibly related to his frequent use of acetaminophen. These were accompanied by anorexia, conjunctival erythema, myalgias, severe headaches (described as a constant dull ache 6/10 and his "hair hurt"), shaking chills, and were followed by diaphoresis. He denies any epistaxis, hematuria, hematochaezia, nausea, vomiting, altered taste, back pain, or arthralgia, but complained of a cough productive of yellow sputum for the next month. He experienced some loose stools approximately three times a day which were unchanged from prior to his illness.

When he returned from his Club Med R&R, he saw a flight surgeon who presumptively diagnosed dengue fever. He was treated with intravenous fluids and was confined to his quarters for follow-up by his medic three to four times a day. He was also prescribed Doxycycline 250mg QID for the next 3 weeks and continued on chloroquine tablets once a week during his illness. He believes a malaria smear was done. During the second week of illness, the periodicity of his fevers lengthened to every six hours while taking acetaminophen regularly.

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Publishing office is the Executive Communications Division, U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, Maryland 21010-5422, telephone 1-800-222-9698, DSN 584-2088, Commercial 410 671-2088.

Views and opinions expressed are not necessarily those of the Department of the Army.

The third week, his symptoms subsided and he returned to limited duty, but noted persistent fatigue and light-headedness when exposed to excessive heat. He was able to eat regularly again; however, he had lost approximately 22 pounds during the course of the illness. By the fourth week, he felt back to normal. Serologies obtained while in Haiti were consistent with acute dengue infection: IgM=400, IgG=50 (IgM >100 is c/w acute infection).

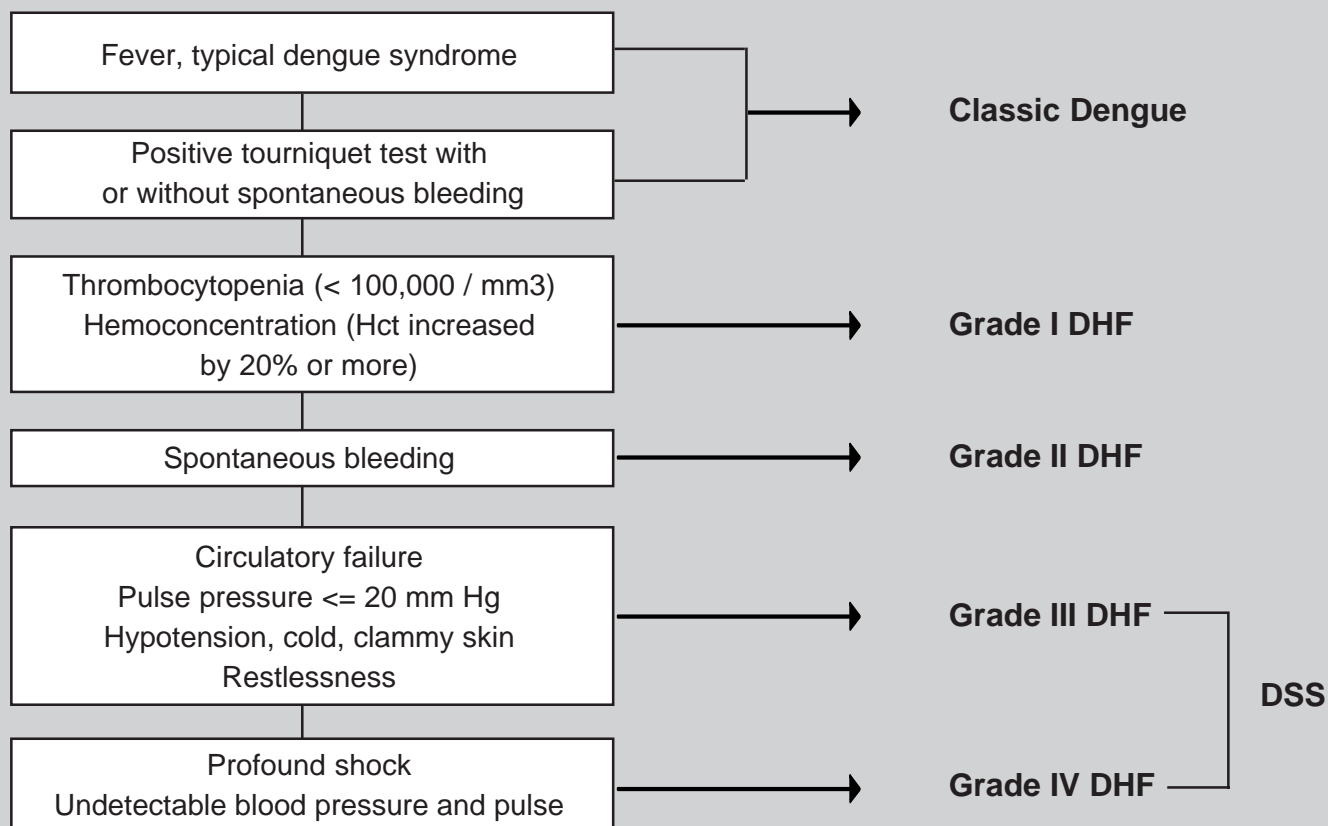
Submitted by MG Kortepeter, MAJ, MC, Preventive Medicine Service, Madigan AMC, Ft Lewis, WA

Editorial Comment: Dengue virus is a major cause of acute febrile illnesses among military personnel. Tens of thousands of cases of dengue fever occurred during World War II (1). More recent deployments in Somalia and in Haiti have confirmed that dengue infection remains an infectious disease threat in tropical environments (2,3).

Dengue or breakbone fever is a self-limited acute viral illness caused by mosquito-transmitted dengue viruses (family *Flaviviridae*). It is the most common arthropod-borne virus illness in humans: annually, there are one hundred million cases of dengue fever worldwide (4). Any of four distinct virus serotypes (dengue 1, 2, 3, and 4 viruses) may cause illness. Infection with one serotype confers

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Algorithm for the diagnosis and grading of dengue, dengue hemorrhagic fever (DHF), and dengue shock syndrome (DSS)



Adapted from Strickland GT. Hunter's Tropical Medicine, 7th edition. W.B. Saunders Company, 1991. p 202.

TABLE I. Cases of selected notifiable conditions, United States Army*
October, 1995

Reporting MTF/Post**	Total number of reports submitted October 1995	Environmental Injuries			Viral Hepatitis			Malaria	Varicella	
		Active Duty		CO intox.	A	B	C	Active Duty	Active Duty	Other Adult
		Heat	Cold							
		Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995
NORTH ATLANTIC HSSA										
Walter Reed AMC	5	-	-	-	3	5	-	2	5	3
Aberdeen Prov. Ground	7	-	-	-	1	-	-	-	-	-
FT Belvoir, VA	27	1	-	-	1	1	-	-	1	1
FT Drum, NY	10	4	21	-	-	-	-	1	14	1
FT Eustis, VA	6	-	-	-	-	-	-	-	3	-
FT Knox, KY	13	-	-	-	-	-	1	1	-	-
FT Lee, VA	15	5	-	-	-	-	-	-	10	-
FT Meade, MD	0	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	0	-	-	-	-	-	-	-	-	-
CENTRAL HSSA										
Fitzsimons AMC	5	-	-	-	1	1	-	-	3	1
FT Carson, CO	73	-	-	-	-	-	-	-	8	-
FT Leonard Wood, MO	15	3	1	-	-	1	-	1	25	4
FT Leavenworth, KS	7	-	-	-	-	-	-	-	-	-
FT Riley, KS	0	11	1	-	-	-	-	-	-	-
SOUTH CENTRAL HSSA										
Brooke AMC	0	-	-	-	2	-	-	1	-	-
FT Hood, TX	125	14	-	-	1	2	-	1	26	2
FT Polk, LA	12	5	-	-	-	-	-	-	-	-
FT Sill, OK	36	19	-	15	-	3	-	1	-	-
Panama	7	4	-	-	5	4	1	-	-	-
SOUTHEAST HSSA										
Eisenhower AMC	15	-	-	-	-	1	3	-	1	-
FT Benning, GA	7	32	14	-	-	-	-	1	1	-
FT Bragg, NC	12	8	-	-	-	-	-	1	-	-
FT Campbell, KY	9	-	-	-	1	-	1	-	2	-
FT Jackson, SC	32	1	-	-	-	-	-	-	9	-
FT McClellan, AL	0	1	-	-	-	-	-	-	-	-
FT Rucker, AL	0	3	-	-	-	-	-	-	-	-
FT Stewart, GA	0	-	-	-	-	-	-	-	-	-
SOUTHWEST HSSA										
Wm Beaumont AMC	0	-	-	-	-	3	-	-	3	2
FT Huachuca, AZ	0	-	-	-	-	-	-	-	-	-
FT Irwin, CA	16	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA										
Madigan AMC	3	-	-	-	-	3	-	-	-	-
FT Wainwright, AK	0	-	17	-	-	-	-	-	-	-
PACIFIC HSSA										
Tripler AMC	31	4	-	-	-	4	-	5	-	-
OTHER LOCATIONS										
Europe	49	2	4	2	-	2	-	-	6	1
Korea	2	2	8	-	-	3	-	-	21	-
Total	539	119	66	17	15	33	6	15	138	15

* Based on date of onset.

** Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Nov-95

TABLE I. Cases of selected notifiable conditions, United States Army* (continued)
October, 1995

Reporting MTF/Post**	Salmonellosis			Shigella			Campylobacteriosis			Tuberculosis	
	Active Duty	Other		Active Duty	Other		Active Duty	Other		Active Duty	Other
		Adult	Child		Adult	Child		Adult	Child		
	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995	Cum. 1995
NORTH ATLANTIC HSSA											
Walter Reed AMC	5	2	1	1	1	1	1	4	-	-	-
Aberdeen Prov. Ground	-	-	-	-	-	-	-	-	-	-	-
FT Belvoir, VA	1	7	5	-	5	1	2	6	1	-	-
FT Drum, NY	2	-	2	-	-	1	-	1	-	-	-
FT Eustis, VA	-	-	-	1	-	-	-	-	-	-	-
FT Knox, KY	1	-	-	1	-	-	-	1	1	-	-
FT Lee, VA	-	-	-	-	-	-	-	-	-	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-
CENTRAL HSSA											
Fitzsimons AMC	-	-	-	-	-	-	-	-	-	-	-
FT Carson, CO	1	2	2	1	-	1	1	1	1	-	-
FT Leonard Wood, MO	-	1	1	-	-	-	-	-	-	-	-
FT Leavenworth, KS	-	-	-	1	3	2	-	-	-	-	-
FT Riley, KS	-	1	-	-	-	1	1	-	1	-	-
SOUTH CENTRAL HSSA											
Brooke AMC	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	1	-	1	-	1	-	-	-	-	-	-
FT Polk, LA	-	-	-	-	-	-	-	-	-	-	-
FT Sill, OK	-	-	-	-	-	-	-	-	-	-	-
Panama	2	3	18	1	2	3	4	3	16	-	-
SOUTHEAST HSSA											
Eisenhower AMC	1	-	-	-	-	2	-	-	1	-	-
FT Benning, GA	-	-	-	-	-	-	-	-	-	-	-
FT Bragg, NC	3	3	12	4	1	5	2	2	1	-	-
FT Campbell, KY	-	-	-	2	-	2	-	-	-	-	-
FT Jackson, SC	-	-	1	-	-	3	-	-	-	3	-
FT McClellan, AL	-	-	-	-	-	3	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	-	-	-	-	-	-	-	-	-	-	-
SOUTHWEST HSSA											
Wm Beaumont AMC	-	2	3	-	-	-	-	-	-	-	-
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	-	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA											
Madigan AMC	1	3	2	-	-	1	2	-	2	-	-
FT Wainwright, AK	-	-	-	-	-	-	1	-	-	-	-
PACIFIC HSSA											
Tripler AMC	1	-	3	-	-	-	8	1	1	-	-
OTHER LOCATIONS											
Europe	8	6	5	-	1	-	3	3	1	-	-
Korea	2	-	3	-	-	-	-	-	-	-	-
Total	29	30	59	12	14	26	25	22	26	3	0

* Based on date of onset.

** Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Nov-95

**TABLE II. Cases of notifiable sexually transmitted diseases, United States Army
October, 1995**

Reporting MTF/Post*	Chlamydia		Gonorrhea		Herpes Simplex		Syphilis Prim/Sec		Syphilis Latent		Urethritis non-spec.		Other STDs**	
	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995	Cur. Month	Cum. 1995
NORTH ATLANTIC HSSA														
Walter Reed AMC	8	54	4	40	5	37	-	4	-	2	5	13	-	10
Aberdeen Prov. Ground	1	32	2	18	-	-	-	-	-	1	-	17	-	1
FT Belvoir, VA	6	30	2	15	-	2	-	1	-	-	-	-	-	5
FT Drum, NY	1	63	2	33	1	10	-	-	-	-	1	16	-	-
FT Eustis, VA	3	25	-	23	-	-	-	-	-	-	-	-	-	-
FT Knox, KY	12	191	6	59	12	69	-	-	-	1	-	-	-	-
FT Lee, VA	8	44	4	35	1	2	-	1	-	-	-	1	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CENTRAL HSSA														
Fitzsimons AMC	1	37	-	8	-	2	-	-	-	1	-	-	-	2
FT Carson, CO	25	235	15	118	-	56	-	-	-	-	41	283	-	4
FT Leonard Wood, MO	5	41	2	31	-	10	-	2	-	-	2	35	-	2
FT Leavenworth, KS	1	5	-	1	-	5	-	-	-	-	-	-	-	-
FT Riley, KS	-	88	-	17	-	2	-	3	-	-	-	-	-	-
SOUTH CENTRAL HSSA														
Brooke AMC	-	1	-	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	29	700	4	278	2	30	1	6	-	9	9	142	-	5
FT Polk, LA	1	50	1	17	-	2	-	-	-	-	-	-	1	1
FT Sill, OK	4	70	-	89	2	9	-	-	-	-	3	31	1	16
Panama	-	1	-	9	5	14	-	6	-	-	-	-	2	7
SOUTHEAST HSSA														
Eisenhower AMC	-	68	-	37	1	37	-	3	-	-	-	2	-	5
FT Benning, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Bragg, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Campbell, KY	1	201	2	80	1	23	-	1	-	-	2	122	-	-
FT Jackson, SC	11	156	3	44	2	28	1	1	-	1	-	1	-	7
FT McClellan, AL	-	26	-	15	-	2	-	-	-	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	-	68	-	58	-	19	-	-	-	1	-	92	-	9
SOUTHWEST HSSA														
Wm Beaumont AMC	-	134	-	22	-	15	-	-	-	-	-	-	-	3
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	11	-	1	1	2	-	-	-	-	-	-	-	-
NORTHWEST HSSA														
Madigan AMC	-	-	-	-	-	-	-	-	-	-	-	-	-	3
FT Wainwright, AK	-	23	-	9	-	-	-	-	-	2	-	-	-	-
PACIFIC HSSA														
Tripler AMC	14	178	5	71	3	105	-	-	-	1	-	-	1	4
OTHER LOCATIONS														
Europe	-	68	-	9	-	1	-	-	-	-	-	-	-	5
Korea	-	22	-	12	-	5	-	-	-	1	-	-	-	5
Total	131	2622	52	1149	36	487	2	28	0	20	63	755	5	94

* Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Nov-95

** Other STDs: (a) Chancroid (b) Granuloma Inguinale (c) Lymphogranuloma Venereum (d) Syphilis unsp. (e) Syph, tertiary (f) Syph, congenital

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long-lasting protection against reinfection but fails to protect against infection with other dengue serotypes; hence multiple episodes of dengue virus infection are possible in the same individual.

In adults, dengue fever typically presents with sudden onset of fever to 39-41°C, frontal headache, and malaise (5). Muscle ache can be intense and diffuse, but most often produces complaints of retro-orbital and lumbar pain. Erythematous rashes may be present at the onset of illness and after the febrile period. Other symptoms include arthralgias without frank arthritis, nausea, and vomiting. Petechiae or other signs of minor hemorrhagic phenomena may be present during dengue fever, but significant bleeding is an uncommon event. There is a marked transient depression of circulating neutrophil, lymphocyte and platelet counts. Dengue fever usually resolves uneventfully with defervescence, but recovery to full health may be prolonged.

Diagnosis of dengue infection is confirmed by isolation of virus or demonstration of a fourfold rise in dengue specific antibodies (hemagglutination-inhibiting, IgG, or neutralizing antibodies for dengue virus) in the serum. Detection of IgM antibody to dengue virus also provides presumptive evidence of dengue infection. Serologic tests for dengue virus infection may be complicated by the presence of cross-reactive antibodies to other flaviviruses, such as Japanese encephalitis virus or yellow fever virus. Specimens should be acquired whenever possible during the febrile period for virus isolation and again after defervescence for detection of antibodies.

Occasionally, infection with dengue virus may result in more severe forms of disease known as dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). At or near the time of defervescence, individuals develop systemic capillary leakage with characteristic hemoconcentration (> 20%

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Report from the Field

Meningococcal Meningitis, Fort Bliss, TX

On October 23, 1995, a 35 year old black male, active duty sergeant based at Fort Sill, Oklahoma was admitted to the medical ICU, Wm. Beaumont Army Medical Center at Fort Bliss, Texas with the tentative diagnosis of meningococcemia due to *Neisseria meningitidis*.

The soldier was deployed on maneuvers near Fort Bliss on October 14th and became ill with fever, sore throat and productive cough on October 21st. He was seen at Dona Ana Base Camp Aid Station and referred to Wm Beaumont Emergency Department where he was initially treated with antibiotics, and returned to his unit. He became progressively

worse and developed headache, nuchal rigidity and a purpuric rash and was Med-Evac'd back to Wm. Beaumont AMC.

Upon admission, a lumbar puncture showed 18 WBC /mm³ with numerous gram-negative diplococci and a chest x-ray revealed a left lower lobe pneumonia. Initially, he was treated with Ceftriaxone then was switched to Penicillin. Despite resuscitative measures, he died on October 24 from septic shock, disseminated intravascular coagulopathy, and cardiac arrest. Subsequent bacteriological studies of the cerebral spinal fluid and blood identified *Neisseria meningitidis* (group B).

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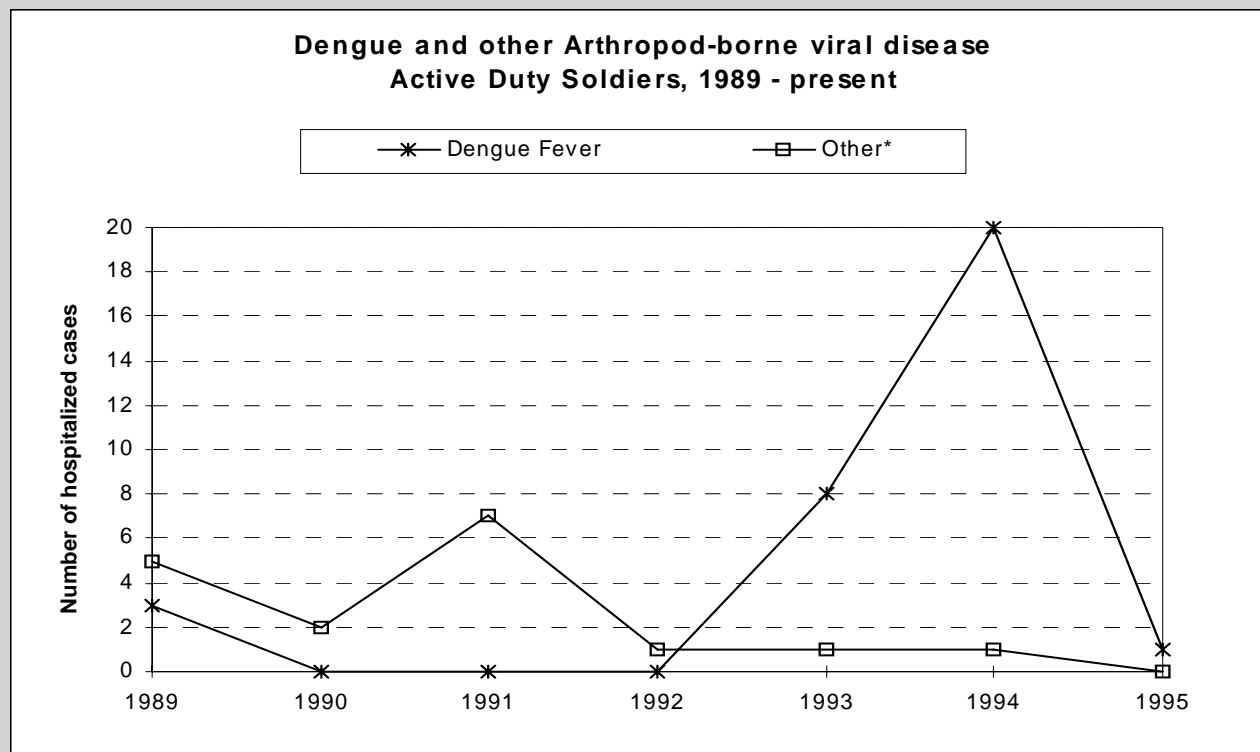
Dengue: Continued from page 7

rise in hematocrit) and thrombocytopenia ($<100,000 \text{ mm}^{-3}$). Other manifestations of DHF include a positive tourniquet test, ascites, pleural effusion, and spontaneous bleeding. Coagulopathies are present in most affected individuals. DHF may rapidly progress to shock (DSS), with rapid or feeble pulse, narrow pulse pressure ($<20 \text{ mm Hg}$), hypotension, and clammy extremities. The risk of severe dengue is highest in dengue virus-infected individuals who were previously infected with another dengue virus serotype. DHF most often affects children in endemic areas, but adults may be at risk for DHF in regions where a dengue virus serotype is newly introduced after another serotype was previously widespread.

Treatment of dengue fever is usually supportive and directed to relief of symptoms with nonsteroidal anti-inflammatory agents (aspirin is best avoided

because of the risk of bleeding or Reye's syndrome) and oral or intravenous fluids. All individuals with suspected dengue should be monitored daily for sudden onset of restlessness, confusion, or lethargy. Examination should focus particularly on evaluation for pulse or blood pressure changes, cool extremities, thrombocytopenia or elevated hematocrit. Treatment of severe dengue requires close monitoring and support of circulatory and hematologic status (6). These simple measures effectively decrease mortality to less than 1 percent. Recovery is often rapid following appropriate supportive therapy. All cases of suspected or confirmed dengue infection detected in the United States should be reported to the state health department. There is a great probability that future deployments will encounter dengue infections as a threat to field operations. Vigilance must also be maintained for

Surveillance Trends



* Includes 5 cases of Sandfly Fever, 1991

the possibility of more severe disease in troops repeatedly exposed to dengue viruses, as well as chance importation of the virus into the United States by soldiers returning from deployment. Control of this pathogen requires coordination of preventive medicine assets, clinicians, and laboratory support activities. Military research efforts are concentrated on developing dengue vaccines to protect soldiers against infection.

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Editorial comment submitted by N Kanesa-athan, MAJ, MC (Infectious Disease Officer) and CH Hoke, Jr., COL, MC, (Chief), Department of Virus Diseases, Walter Reed Army Institute of Research, Washington DC 20307-5100; DSN 662-2073, comm. (202) 782-

N. Meningitidis: Continued from page 7

Within 24 hours of the admission, a total of 340 individuals (300 soldiers and 40 hospital personnel) were treated with Rifampin prophylaxis. Over a 72 hour period, eleven symptomatic soldiers from the patients unit were admitted for observation. No secondary cases of *N. meningitidis* meningitis were discovered, all improved and were discharged. Prior to the identification of the serotype as group B, meningococcal vaccine was offered to any soldier of the patient's unit who had not received the vaccine within the last five years. A total of 107 soldiers were vaccinated on October 27th. This patient had received the meningococcal vaccine in 1990.

Information on case report submitted by TP Endy, MAJ(P), MC, Acting Chief, Infectious Disease Service, Wm. Beaumont Army Medical Center, El Paso, TX.

Editorial Comments: Meningococcal disease is caused by *Neisseria meningitidis*, a gram negative diplococcus whose only known natural host is man. While its usual relationship with man is asymptomatic nasopharyngeal colonization, its clinical and public

health significance derives from its ability to cause sporadic cases, epidemics, and pandemics of meningococcal meningitis and meningococcemia. The tragic fatal case described in this report exemplifies the fulminant nature of the disease when it attacks young previously healthy hosts.

Throughout history, there has been a close and consistent link between meningococcal disease and military service. In World War I, epidemics of meningococcal disease ravaged US Army basic training camps, and approximately 30% of soldiers with disease died. In World War II, antibiotic therapy dramatically reduced case fatality to approximately four percent; still, there were almost 14,000 cases of meningococcal disease which was the second leading cause of infectious disease deaths.

By the end of World War II, mass sulfadiazine prophylaxis was routinely used to prevent recruit camp outbreaks. At the start of mobilization for the Vietnam conflict, sulfadiazine-resistant meningococci emerged at, and temporarily shut down, Army and Navy training camps in California. These outbreaks resulted in one of the most ambitious, and ultimately successful, vaccine development pro-

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grams in history. In less than ten years, a safe and effective vaccine against serogroup C meningococcus had been developed by Army investigators at Walter Reed Army Institute of Research.

Since 1971, meningococcal vaccine derived from serogroup-specific capsular polysaccharide has been administered to all military recruits. Beginning in 1982, tetravalent vaccine against serogroups A, C, Y, and W135 has been used, and since then, meningococcal disease has occurred rarely and sporadically among soldiers.

A significant threat to soldiers comes from serogroup B disease for which there is no vaccine. Serogroup B is the predominant serogroup of cases among US civilians — and significantly, was the cause of the fatal case described in this report. Until

there is an effective vaccine against serogroup B meningococcus, sporadic cases can be expected even among vaccinated military populations.

When cases do occur, countermeasures include rapid case detection, early diagnosis, immediate treatment and rapid identification and prophylactic treatment of close contacts (e.g., “intimate” exposure to nasopharyngeal secretions). Meningococci are not transmitted by fomites, and casual contacts are not at significantly increased risk. Household contacts, socially intimate contacts, and health care providers with close contact with nasopharyngeal secretions (e.g., mouth to mouth resuscitation) should receive prophylactic treatment with rifampin (in some cases, other antibiotics may be used for prophylactic treatment of contacts).

Emerging Infectious Diseases

Streptococcal Toxic Shock Syndrome - Fort Leonard Wood, MO

On September 09, 1995, a 25 year old white female, military dependent, was transferred to the University Hospital, Columbia, Missouri from the Gen. Leonard Wood Army Community Hospital. She was suffering from peritonitis with early manifestations of ARDS and DIC. Approximately one week prior to admission she became symptomatic with fever and general malaise. She was treated for a viral illness but during the course of the week became progressively worse complaining of abdominal pain associated with nausea, vomiting and diarrhea and pain in the right leg. On the day of admission her temperature was 101.2 F, blood pressure was 91/76 mmHg, white count was 14,100/cu.mm. with a platelet count of 48,000/cu.mm. An emergent exploratory laparotomy was performed which showed no evidence of perforated viscus, appendicitis, cholecystitis or pelvic inflammatory disease. Two liters of purulent fluid with gram positive cocci in chains was drained from the abdominal cavity. Subsequent culture revealed group-A Streptococ-

cus. The patient remained intubated and required hemodynamic monitoring with Swan-Ganz catheterization. The following day she was returned to the operating room for a myofascial biopsy and fasciotomy of the right posterior thigh. Multiple areas of necrotic tissue confirmed the diagnosis of necrotizing fasciitis. During her hospitalization she required bilateral thoracentesis and repeated I&D and debridement of the right thigh wound. She showed continued improvement on antibiotic therapy (Imipenem later changed to Clindamycin), was extubated and Swan-Ganz catheterization discontinued. She was transferred back to the Gen. Leonard Wood Army Community Hospital on September 25th and was discharged in stable condition the following day. She has returned for closure of the right posterior thigh wound on an outpatient basis.

Information on case report submitted by AA Yackovich, MAJ, MC, Chief, Preventive Medicine Division, General Leonard Wood ACH, Ft Leonard Wood, MO

ARD Surveillance Update

Legend		
—	ARD Rate	= (ARD cases / Trainees) * 100
■ ■ ■	SASI*	= ARD Rate * Strep Rate**

FT Benning

Ft Jackson

Ft Knox

Ft Leonard
Wood

Ft McClellan

Ft Sill

Table IV. ARD surveillance rates, submitted by Army TRADOC posts

* Strep/ARD Surveillance Index (SASI)

**Strep Rate = (GABHS(+) / Cultures) * 100

Note: SASI has proven to be a reliable predictor of serious strep-related morbidity, especially acute rheumatic fever.

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